

a1
= 0.8 to 5.0 kHz. As a result, a crack-free lower chrome layer S_1 (Fig. 1) having a thickness of about 3 μm was formed on a surface of each test piece. Subsequently, in the same chrome plating bath, general-purpose plating was conducted at a bath temperature of 60°C and a current density of 60 A/dm². As a result, an upper chrome layer S_2 (Fig. 1) having a thickness of about 10 μm was formed on the lower chrome layer S_1 on each test piece, to thereby obtain samples 2 to 18 (as shown in Table 2). Further, for reference, using the same test piece and chrome plating bath as mentioned above, general-purpose hard chrome plating was conducted at a bath temperature of 60°C and a current density of 60 A/dm². As a result, a single chrome layer having a thickness of about 20 μm was formed on a surface of the test piece, to thereby obtain a sample 1.

[Page 20, please replace the paragraph beginning at line 9 with the following:

a2
With respect to the samples 2 to 18, a surface hardness (HV) was measured and visual observation was made by using a microscope to evaluate formation of cracks in each of the lower and upper chrome layers S_1 and S_2 after deposition. Further, with respect to the lower chrome layer S_1 , residual stress and crystal grain size were measured as mentioned below. Further, the samples 2 to 18 were subjected to a salt-spray test in accordance with JIS Z2371, and visually observed to evaluate occurrence of rusting. With respect to the samples in which no rusting was observed, they were subjected to heat treatment at 200°C for 2 hours. The resultant samples were visually observed to evaluate formation of cracks on each of the lower and upper chrome layers S_1 and S_2 in the above-mentioned manner, and were subjected to the salt-spray test in accordance with JIS Z2371 again to evaluate occurrence of rusting. The color of a surface of each of the samples 2 to 18 was observed at the time of completion of formation of the lower chrome layer S_1 . The above-mentioned measurements and observations were also conducted with respect to the single chrome layer of the sample 1.

Page 22, please replace Table 2 (1) with the following:

Sample No.	Pulse time (μ s)		Crystal grain size of S_1 (nm)	Cracking of S_1 after deposition	Residual stress (MPa)	Hardness (HV)	Appearance of S_1	Rusting		Evaluation
	T_1	T_2						Before heat treatment	After heat treatment	
1 (Comparative)			6.1	Observed	+230	1,090	Glossy	Observed (2h)		NG
2 (Comparative)	100	100	7.8	Observed	+276	1,034	Glossy	Observed (24h)		NG
3 (Comparative)	200	100	8.0	Observed	+160	1,017	Glossy	Observed (24h)		NG
4 (Comparative)	150	150	8.2	Observed	+10	940	Glossy	Observed (96h)		NG
5 (Comparative)	200	200	8.7	Not observed	-65	920	Glossy	Not observed (300h)	Observed (24h)	NG
6 (Present invention)	150	200	9.6	Not observed	-150	870	Glossy	Not observed (300h)	Not observed (300h)	OK
7 (Present invention)	100	200	9.8	Not observed	-203	835	Glossy	Not observed (300h)	Not observed (300h)	OK
8 (Present invention)	110	220	10.1	Not observed	-220	840	Glossy	Not observed (300h)	Not observed (300h)	OK
9 (Present invention)	800	300	10.5	Not observed	-205	818	Glossy	Not observed (300h)	Not observed (300h)	OK

Table 2 (1)

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Page 23, please replace Table 2 (2) with the following:

Sample No.	Pulse time (μ s)		Crystal grain size of S_1 (nm)	Cracking of S_1 after deposition	Residual stress (MPa)	Hard- ness (HV)	Appear- ance of S_1	Rusting		Evalu- ation
	T_1	T_2						Before heat treatment	After heat treatment	
10 (Present invention)	400	300	10.6	Not observed	-305	782	Glossy	Not observed (300h)	Not observed (300h)	OK
11 (Present invention)	200	300	11.1	Not observed	-339	742	Glossy	Not observed (300h)	Not observed (300h)	OK
12 (Present invention)	300	300	11.7	Not observed	-313	710	Glossy	Not observed (300h)	Not observed (300h)	OK
13 (Present invention)	600	400	12.3	Not observed	-323	681	Glossy	Not observed (300h)	Not observed (300h)	OK
14 (Present invention)	500	400	13.5	Not observed	-334	630	Glossy	Not observed (300h)	Not observed (300h)	OK
15 (Present invention)	400	400	15.4	Not observed	-272	602	Glossy	Not observed (300h)	Not observed (300h)	OK
16 (Comparative)	300	400	16.0	Observed	+30	546	Milky	Observed (96h)		NG
17 (Comparative)	600	500	16.7	Observed	+53	498	Milky	Observed (96h)		NG
18 (Comparative)	700	500	18.1	Observed	+18	450	Milky	Observed (96h)		NG

Table 2 (2)

Page 28, please replace Table 3 with the following:

Table 3

Chrome layer	Residual stress (MPa)	Crystal grain size (nm)	Cracking after deposition	Rusting	
				Before heat treatment	After heat treatment
S ₁	-279	12.2	Not observed	Not observed	Not observed
S ₃	-163	10.7	Not observed		
S ₄	+226	8.0	Slightly observed		
S ₂	+300	6.6	Observed		

Pages 30-31, please replace the paragraph beginning on page 30, line 16 with the following:

For comparison, using the same test piece and chrome plating bath as used in Example 1, pulse plating was conducted under the following conditions: bath temperature = 60°C; maximum current density $I_U = 120 \text{ A/dm}^2$; minimum current density $I_L = 0 \text{ A/dm}^2$; on-time $T_1 = 200 \mu\text{s}$; off-time $T_2 = 200 \mu\text{s}$; and frequency = 2.5 kHz. As a result, a crack-free lower chrome layer S₁ having a thickness of about 3 μm was formed on a surface of the test piece. Subsequently, in the same chrome plating bath, general-purpose plating was conducted at a bath temperature of 60°C and a current density of 60 A/dm^2 . As a result, a cracked upper chrome layer S₂ having a thickness of about 10 μm was formed on a surface of the lower chrome layer S₁, to thereby obtain a sample 33. The sample 33 was subjected to the above-mentioned buffing and high-frequency heating. Further, for comparison, substantially the same procedure for obtaining the sample 31 was repeated, except that the baking process was conducted before buffing, to thereby obtain a sample 34.

IN THE CLAIMS

Cancel, without prejudice to the subject matter involved, claims 24, 25, 28 and 30.